

IN THE CLAIMS:

Please amend the claims as follows:

1 1. (Currently amended) An apparatus for terminating ~~an obstructive sleep apnea event~~
2 ~~before cessation of breathing occurs~~ a physiological process that causes cessation of breathing to
3 occur in an airway of a person due to a complete obstruction of said airway due to an obstructive
4 sleep apnea event, wherein said physiological process is terminated before cessation of breathing
5 occurs, wherein the apparatus comprises:

6 at least one microphone capable of being acoustically associated with a said person, said
7 microphone capable of detecting breathing sounds within ~~an~~ said airway of said person and capable
8 of generating signals representative of said breathing sounds;

9 a controller coupled to said at least one microphone and capable of receiving said signals,
10 said controller capable of identifying within said signals at least one signal pattern that is associated
11 with a breathing pattern of said person that occurs at the onset of ~~an obstructive sleep apnea event~~
12 said physiological process, before cessation of breathing occurs, and capable of generating an alarm
13 signal in response thereto; and

14 a stimulus generator coupled to said controller, said stimulus generator capable of receiving
15 said alarm signal from said controller, and in response thereto, creating a stimulus to cause said
16 person to move in ~~a manner that causes said obstructive sleep apnea event to terminate before~~

1 ~~cessation of breathing occurs~~ said person's head backwards to terminate said physiological process
2 before cessation of breathing occurs.

1 2. (Original) An apparatus as claimed in Claim 1 wherein said stimulus generator
2 comprises one of: a sound generator, a light source, a vibrator, and an electrical current source.

1 3. (Original) An apparatus as claimed in Claim 1 wherein said stimulus generator
2 comprises a vibrator and a sound generator.

1 4. (Original) An apparatus as claimed in Claim 1 wherein said stimulus generator
2 comprises a vibrator and an electrical current source.

1 5. (Currently amended) An apparatus as claimed in Claim 1 further comprising a base
2 station coupled to said controller wherein said controller is capable of sending an alarm signal to said
3 base station to indicate that at least one signal pattern has been identified that is associated with a
4 breathing pattern of said person that occurs at the onset of ~~an obstructive sleep apnea event~~ said
5 physiological process before cessation of breathing occurs.

1 6. (Currently amended) An apparatus as claimed in Claim 1 further comprising at least
2 one filter coupled between said at least one microphone and said controller, wherein said at least one
3 filter is capable of filtering said signals from said at least one microphone to create filtered signals
4 representative of said breathing sounds, and wherein said controller is capable of identifying within
5 said filtered signals at least one signal pattern that is associated with a breathing pattern of said
6 person that occurs at the onset of ~~an obstructive sleep apnea event~~ said physiological process before
7 cessation of breathing occurs.

1 7. (Original) The apparatus as claimed in Claim 1 further comprising an airflow
2 sensor capable of detecting a flow of air within an airway of said person and capable of generating
3 an airflow detection signal that is representative of the presence of said flow of air; and
4 wherein said controller is coupled to said airflow sensor and is capable of receiving said
5 airflow detection signal from said airflow sensor to obtain information concerning the breathing of
6 said person.

1 8. (Currently amended) The apparatus as claimed in Claim 1 wherein said controller
2 comprises software capable of analyzing said signals to identify within said signals at least one signal
3 pattern that is associated with a breathing pattern of said person that occurs at the onset of ~~an~~
4 ~~obstructive sleep apnea event~~ said physiological process before cessation of breathing occurs.

1 9. (Currently amended) The apparatus as claimed in Claim 8 wherein said software
2 analyzes said signals using Fast Fourier Transform analysis to identify at least one signal pattern that
3 is associated with a breathing pattern of said person that occurs at the onset of ~~an obstructive sleep~~
4 ~~apnea event~~ said physiological process before cessation of breathing occurs.

1 10. (Original) The apparatus as claimed in Claim 1 wherein said controller operates
2 only during one half of the respiration cycle.

1 11. (Currently amended) An apparatus for terminating ~~an obstructive sleep apnea event~~
2 ~~before cessation of breathing occurs~~ a physiological process that causes partially occluded
3 breathing to occur in an airway of a person due to a partial obstruction of said airway due to an
4 obstructive sleep apnea event, wherein said physiological process is terminated before cessation of
5 breathing occurs, wherein the apparatus comprises:

6 at least one microphone capable of being acoustically associated with a said person, said
7 microphone capable of detecting breathing sounds within ~~an~~ said airway of said person and capable
8 of generating signals representative of said breathing sounds;

9 a controller coupled to said at least one microphone and capable of receiving said signals,
10 said controller capable of identifying within said signals at least one signal pattern that is associated

1 with a partially occluded breathing pattern of said person that occurs at the onset of ~~an obstructive~~
2 ~~sleep apnea event~~ said physiological process before cessation of breathing occurs, and capable of
3 generating an alarm signal in response thereto; and

4 a stimulus generator coupled to said controller, said stimulus generator capable of receiving
5 said alarm signal from said controller, and in response thereto, creating a stimulus to cause said
6 person to move ~~in a manner that terminates the partial occlusion of breathing and restores normal~~
7 ~~breathing~~ said person's head backward to terminate said partially occluded breathing and to restore
8 normal breathing.

1 12. (Original) An apparatus as claimed in Claim 11 wherein said stimulus generator
2 comprises one of: a sound generator, a light source, a vibrator, and an electrical current source.

1 13. (Original) An apparatus as claimed in Claim 11 wherein said stimulus generator
2 comprises a vibrator and a sound generator.

1 14. (Original) An apparatus as claimed in Claim 11 wherein said stimulus generator
2 comprises a vibrator and an electrical current source.

1 15. (Currently amended) An apparatus as claimed in Claim 11 further comprising a
2 base station coupled to said controller wherein said controller is capable of sending an alarm signal
3 to said base station to indicate that at least one signal pattern has been identified that is associated
4 with a partially occluded breathing pattern of said person that occurs at the onset of ~~an obstructive~~
5 ~~sleep apnea event~~ said physiological process before cessation of breathing occurs.

1 16. (Currently amended) An apparatus as claimed in Claim 11 further comprising at
2 least one filter coupled between said at least one microphone and said controller, wherein said at
3 least one filter is capable of filtering said signals from said at least one microphone to create filtered
4 signals representative of said breathing sounds, and wherein said controller is capable of identifying
5 within said filtered signals at least one signal pattern that is associated with a partially occluded
6 breathing pattern of said person that occurs at the onset of ~~an obstructive sleep apnea event~~ said
7 physiological process before cessation of breathing occurs.

1 17. (Original) The apparatus as claimed in Claim 11 further comprising an airflow
2 sensor capable of detecting a flow of air within an airway of said person and capable of generating
3 an airflow detection signal that is representative of the presence of said flow of air; and

4 wherein said controller is coupled to said airflow sensor and is capable of receiving said
5 airflow detection signal from said airflow sensor to obtain information concerning the breathing of
6 said person.

1 18. (Currently amended) The apparatus as claimed in Claim 11 wherein said controller
2 comprises software capable of analyzing said signals to identify within said signals at least one signal
3 pattern that is associated with a partially occluded breathing pattern of said person that occurs
4 at the onset of ~~an obstructive sleep apnea event~~ said physiological process before cessation of
5 breathing occurs.

1 19. (Currently amended) The apparatus as claimed in Claim 18 wherein said software
2 analyzes said signals using Fast Fourier Transform analysis to identify at least one signal pattern that
3 is associated with a partially occluded breathing pattern of said person that occurs at the onset of
4 ~~an obstructive sleep apnea event~~ said physiological process before cessation of breathing occurs.

1 20. (Original) The apparatus as claimed in Claim 11 wherein said controller operates
2 only during one half of the respiration cycle.

1 21. (Currently amended) A method for terminating ~~an obstructive sleep apnea event~~
2 ~~before cessation of breathing occurs~~ a physiological process that causes cessation of breathing to
3 occur in an airway of a person due to a complete obstruction of said airway due to an obstructive
4 sleep apnea event, said method comprising the steps of:

5 detecting breathing sounds within ~~an~~ said airway of a said person;
6 generating signals representative of said breathing sounds;
7 identifying within said signals at least one signal pattern that is associated with a breathing
8 pattern of said person that occurs at the onset of ~~an obstructive sleep apnea event~~ said physiological
9 process before cessation of breathing occurs; and

10 creating a stimulus to cause said person to move ~~in a manner that causes said obstructive~~
11 ~~sleep apnea event to terminate before cessation of breathing occurs~~ said person's head backwards
12 to terminate said physiological process before cessation of breathing occurs.

1 22. (Currently amended) The method as claimed in Claim 21 wherein said step of
2 creating a stimulus to cause said person to move ~~in a manner that causes said obstructive sleep apnea~~
3 ~~event to terminate before cessation of breathing occurs~~ said person's head backwards to terminate
4 said physiological process before cessation of breathing occurs comprises one of the steps of:

5 generating a sound with a sound generator, activating a light source to turn on a light,
6 activating a vibrator, and generating an electrical current through the body of said person.

1 23. (Currently amended) The method as claimed in Claim 21 wherein said step of
2 creating a stimulus to cause said person to move ~~in a manner that causes said obstructive sleep apnea~~
3 ~~event to terminate before cessation of breathing occurs~~ said person's head backwards to terminate
4 said physiological process before cessation of breathing occurs comprises the steps of:

5 activating a vibrator; and

6 generating a sound with a sound generator.

1 24. (Currently amended) The method as claimed in Claim 21 wherein said step of
2 creating a stimulus to cause said person to move ~~in a manner that causes said obstructive sleep apnea~~
3 ~~event to terminate before cessation of breathing occurs~~ said person's head backwards to terminate
4 said physiological process before cessation of breathing occurs comprises the steps of:

5 activating a vibrator; and

6 generating an electrical current through the body of said person.

1 25. (Currently amended) The method as claimed in Claim 21 further comprising the
2 steps of:

3 filtering said signals representative of said breathing sounds to create filtered signals
4 representative of said breathing sounds; and

5 identifying within said filtered signals at least one signal pattern that is associated with a
6 breathing pattern of said person that occurs at the onset of ~~an obstructive sleep apnea event~~ said
7 physiological process before cessation of breathing occurs.

1 26. (Currently amended) The method as claimed in Claim 21 further comprising the
2 steps of:

3 recording said at least one signal pattern that is associated with a breathing pattern of said
4 person that occurs at the onset of ~~an obstructive sleep apnea event~~ said physiological process before
5 cessation of breathing occurs;

6 monitoring said signals representative of said breathing sounds as said person breathes;

7 comparing said signals representative of said breathing sounds with said recorded at least one
8 signal pattern that is associated with a breathing pattern of said person that occurs at the onset of ~~an~~
9 ~~obstructive sleep apnea event~~ said physiological process before cessation of breathing occurs; and

10 identifying within said signals a signal pattern that is substantially the same as said recorded
11 at least one signal pattern that is associated with a breathing pattern of said person that occurs at the
12 onset of ~~an obstructive sleep apnea event~~ said physiological process before cessation of breathing
13 occurs.

1 27. (Original) The method as claimed in Claim 21 wherein the step of detecting
2 breathing sounds within an airway of said person comprises:

3 detecting breathing sounds within said airway of said person only during one half of the
4 respiration cycle.

1 28. (Currently amended) A method for terminating ~~an obstructive sleep apnea event~~
2 ~~before cessation of breathing occurs~~ a physiological process that causes partially occluded breathing
3 to occur in an airway of a person due to a partial obstruction of said airway due to an obstructive
4 sleep apnea event, wherein said physiological process is terminated before cessation of breathing
5 occurs, said method comprising the steps of:

6 detecting breathing sounds within ~~an~~ said airway of ~~a~~ said person;

7 generating signals representative of said breathing sounds;

8 identifying within said signals at least one signal pattern that is associated with a partially
9 occluded breathing pattern of said person that occurs at the onset of ~~an obstructive sleep apnea event~~
10 said physiological process before cessation of breathing occurs;

11 recording said at least one signal pattern that is associated with a partially occluded breathing
12 pattern of said person that occurs at the onset of ~~an obstructive sleep apnea event~~ said physiological
13 process before cessation of breathing occurs;

14 monitoring said signals representative of said breathing sounds as said person breathes;

15 comparing said signals representative of said breathing sounds with said recorded at least one
16 signal pattern that is associated with a partially occluded breathing pattern of said person that occurs
17 at the onset of ~~an obstructive sleep apnea event~~ said physiological process before cessation of
18 breathing occurs;

1 identifying within said signals a signal pattern that is substantially the same as said recorded
2 at least one signal pattern that is associated with a partially occluded breathing pattern of said person
3 that occurs at the onset of ~~an obstructive sleep apnea event~~ said physiological process before
4 cessation of breathing occurs; and

5 creating a stimulus to cause said person to move ~~in a manner that terminates the partial~~
6 ~~occlusion of breathing and restores normal breathing~~ said person's head backwards to terminate said
7 partially occluded breathing and to restore normal breathing.

1 29. (Currently amended) A method for terminating ~~an obstructive sleep apnea event~~
2 ~~before cessation of breathing occurs~~ a physiological process that causes cessation of breathing to
3 occur in an airway of a person due to a complete obstruction of said airway due to an obstructive
4 sleep apnea event, wherein said physiological process is terminated before cessation of breathing
5 occurs, said method comprising the steps of:

6 detecting breathing sounds within ~~an~~ said airway of a said person;
7 generating signals representative of said breathing sounds;
8 identifying within said signals at least one signal pattern that is associated with a normal
9 breathing pattern of said person;

10 recording said at least one signal pattern that is associated with a normal breathing pattern
11 of said person;

1 monitoring said signals representative of said breathing sounds as said person breathes;
2 comparing said signals representative of said breathing sounds with said recorded at least one
3 signal pattern that is associated with a normal breathing pattern of said person;
4 identifying within said signals a signal pattern that is substantially different from said
5 recorded at least one signal pattern that is associated with a normal breathing pattern of said person;
6 and
7 creating a stimulus to cause said person to move ~~in a manner that restores~~ said person's head
8 backwards to restore normal breathing before cessation of breathing occurs.